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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/413,384

10/06/99

WHEAT

W

31223-74058

025264

IM52/0827

EXAMINER

FINA TECHNOLOGY INC

PO BOX 674412

HOUSTON TX 77267-4412

JACKSON, M

ART UNIT

PAPER NUMBER

1773

DATE MAILED:

08/27/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.

09/413,384

Applicant(s)

WHEAT ET AL.

Examiner

Monique R Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 27-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed 6/14/01 has been entered. Claims 25-26 have been canceled.

Claims 1-12 and 27-30 are pending in the application.

2. The objection to the specification as recited in the prior office action has been withdrawn.

3. The rejections under 35 U.S.C. 112, second paragraph, as recited in the prior office action have been obviated by the amendment filed 6/14/01 and hence are withdrawn.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. The rejections based on Peiffer et al (USPN 5,573,723) and Peiffer et al (USPN 5,716,570) have been withdrawn. Peiffer et al '723 and Peiffer et al '570 do not specifically teach that the ethylene/propylene polymer utilized in the core layer has an isotactic structure, nor would it have been obvious based on their teachings.

6. Claims 1-12 and 27-30 are rejected under 35 U.S.C. 102(e) as anticipated by Peiffer et al (USPN 6,063,482.) Peiffer et al teach a biaxially oriented polypropylene film comprising a base ply essentially consisting of an isotactic propylene polymer having at least 90% by weight, in particular 98 to 100% by weight of propylene units and the corresponding comonomer content of not more than 10% by weight, or 0 to 2% by weight, ethylene (wherein 0 to 2% by weight encompasses the instantly claimed range of 0.05 to 0.8 wt% "which is effective to provide an inter-layer bond strength with said surface layer which is at least about 15 percent greater than the inter-layer bond strength between said surface layer and a film formed of isotactic polypropylene homopolymer"; Abstract; 3:48-53.) In a preferred multilayer embodiment, the polypropylene film comprises at least one top ply or if necessary top plies on both sides,

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composed of polymers of α -olefinic polymers having 2 to 10 carbon atoms, such as propylene homopolymer, copolymer of ethylene and propylene, or terpolymer of ethylene and propylene and 1-butylene (which are inherently "capable of forming an effective heat seal with a corresponding thermoplastic polymer upon heating to an elevated temperature and compression"; 5:28-6:8.) Preferred embodiments of the polypropylene film according to the invention are three-ply wherein the structure, thickness and composition of a second top ply can be chosen independently of the top ply already present (6:46-52.) The thickness of the top ply or plies is generally greater than $0.1\mu\text{m}$ and is preferably in the range of 0.1 to $10\mu\text{m}$ (6:54-58.) The thickness of the interlayer or interlayers is generally greater than $0.3\mu\text{m}$ and preferably in the range of 1.0 to $15\mu\text{m}$ (6:59-66.) The total thickness of the polypropylene film according to the invention may vary within wide limits and depends on the intended use but it is preferably 4 to $100\mu\text{m}$, with the base ply accounting for about 40 to 100% of the total film thickness (7:1-5.) In terms of bond strength, considering the invention taught by Peiffer et al is the same as that of the instant application, the propylene film would inherently possess the same inter-layer bond strength as the instantly claimed invention. Therefore, considering Peiffer et al teach a multilayer polyolefin film comprising a core layer of isotactic propylene polymer formed from propylene and up to $10\text{wt}\%$ ethylene and preferably 0 - $2\text{wt}\%$ ethylene, which encompasses the instantly claimed range, and a top ply or plies made from olefin polymers such as ethylene-propylene copolymers which are inherently thermoplastic polymers capable of forming an effective heat seal with a corresponding thermoplastic polymer upon heating and compression, wherein the thickness of the film and the layers fall within the instantly claimed ranges, the invention taught by Peiffer et al anticipates the invention claimed in the present application.

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7. Claims 1-12 and 27-30 are rejected under 35 U.S.C. 103(a) as obvious over Peiffer et al (USPN 6,063,482.) The teachings of Peiffer et al are discussed above. Though Peiffer et al teach thickness ranges and percentages of ethylene utilized to produce the isotactic propylene polymer that do not fall within the instantly claimed ranges, it is well known in the art that layer thickness is a result affected variable which affects the film properties of the resulting product such as gas barrier properties and it is also well known in the art that ethylene content in an isotactic propylene polymer is a result affect variable affecting the crystallinity of the resulting polymer and in turn the resulting film. Hence, in the absence of a showing of criticality or unexpected results with regards to the instantly claimed ranges, it would have been obvious to one having ordinary skill in the art to utilize routine experimentation to optimize layer and film thickness and the percentage of ethylene in the propylene copolymer to produce a multilayer film with the desired film properties for a particular end use.

Response to Arguments

8. Applicant's arguments filed 6/14/01 have been fully considered but they are not persuasive in terms of the rejections based on Peiffer et al (USPN 6,063,482.) Applicant argues that Peiffer'482 contains absolutely no disclosure regarding enhancement of interlayer bond strength in a multilayer film comprising a surface film capable of forming an effective heat seal. Further, the Applicant argues that the reference is totally devoid of any disclosure or description regarding heat sealing characteristics or interlay bond strengths. The Applicant also argues that the "preferred product in '482 is single-ply films" and where multilayer films are involved, the base ply is an isotactic propylene homopolymer as in Example 5 of Peiffer with the use of random ethylene/propylene copolymers being confined to the top plies. The Applicant argues

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that the instantly claimed features are not inherent in or obvious from the invention taught by Peiffer '482. The Examiner traverses these arguments and first directs the Applicant to the above summary of Peiffer '482. Peiffer '482 specifically teaches that the core layer or base ply is an isotactic propylene polymer formed from at least 90wt%, preferably 94-100wt%, particularly 98-100wt% propylene units and not more than 10wt% or 0-6wt% or 0-2wt% ethylene units, which encompasses the instantly claimed ranges (See Column 3.) Peiffer '482 specifically teaches how the isotactic index is determined for an ethylene/propylene copolymer of the invention (See Columns 9-11, emphasis on Column 11.) Though Peiffer'482 utilizes an isotactic propylene homopolymer in Example 5 as pointed out by the Applicant, the Examiner takes the position that the examples presented by Peiffer'482 are just that, examples, and are non-limiting in terms of the invention as a whole taught by Peiffer'482. The Applicant states that the "preferred product in '482 is single-ply films" however the Examiner directs the Applicant to Column 6, lines 40-41, which state that the "film according to the invention comprises at least the base ply..., **preferably at least one top ply**" and lines 46-47 which state "[p]referred embodiments of the polypropylene film according to the invention **are three-ply.**" The Applicant recognizes the use of ethylene/propylene random copolymer as the top plies of the multilayer film taught by Peiffer '482 and given that it is well known in the art that ethylene/propylene random copolymers are inherently heat-sealable (refer to Agarwal et al USPN 5,795,946, Col. 1), the Examiner takes the position that the top ply polyolefin materials taught by Peiffer'482, including ethylene/propylene copolymers, are inherently **capable** of forming an effective heat seal with a corresponding thermoplastic polymer upon heating. Hence, the invention taught by Peiffer'482 appears to be the same product claimed in the instant

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invention and considering the film taught by Peiffer'482 comprises the **same materials** and the **same composition** as the instantly claimed invention, the Examiner maintains her position that the film taught by Peiffer'482 would inherently possess the same properties such as interlayer bond strength as instantly claimed. Alternatively, the Examiner maintains that it would have been obvious to one having ordinary skill in the art to utilize any amount of ethylene within the preferred range taught by Peiffer'482 or to utilize routine experimentation to optimize the amount of ethylene content given that it is well known in the art that ethylene content in the isotactic propylene polymer is a result-affected variable (as evidenced by Agarwal et al, Column 1) which in turn affects the film properties of the resulting product, including such properties as processability, interlayer bond strength and barrier properties. However, the Examiner will reconsider her position upon a showing of criticality or unexpected results with regards to the instantly claimed ranges and/or a showing that the product film taught by Peiffer et al '482 is not the same product as the instantly claimed invention.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428.

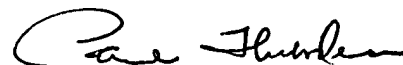
The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5436 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



mrj
August 24, 2001



Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700